PROJECT CHARGE: 2106

PROJECT TITLE: APPLIED TECHNOLOGY

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PACKAGING (J. L. Banyasz, C. D. Owens and T. V. Van Auken)

In collaboration with Development, samples of paper with microencapsulated water were tested for water release as a function of ambient RH. Only small weight changes were observed which were consistent with changes in the moisture content of the paper itself. The capsules apparently lost their moisture content during the application process.

Work is proceeding on the relative humidity indicator to be used inside cigarette packs as an indicator of pack OV. Discussions with Thide-Engdahl concluded that it is highly probable that a rotogravure ink can be formulated to include such an indicator system.

Based on the barrier properties of overwraps summerized in previous reports and the sorption isotherms of tobacco a mathematical model was developed to predict the rates of moisture loss or gain from cigarette packs as a function of ambient RH. An overview of this work was presented at a recent Focus Goal #2 review. Experiments to test the validity of the model are under way.

FLAVOR TRANSFER (A. L. Finley)

A set of conditions for the reproducible and reversible activation (dehydration) of 150 A silica gel have been developed. This consists of the application of at least 25 in Hg of vacuum for at least eight hours followed by the slow application of heat at a rate of 5-10°C/minute up to 175°C. Exceeding 225°C appears to cause irreversible damage to the gel. The duration of heating depends on sample size. Flavor addition to the 150 A gel is proceeding. However, data to this point indicate that large gel samples will require heating times that may be too long to be practical given the present procedure.

Plans have been made to investigate the flavor release mechanism of the PVA flavor storage/release system in collaboration with Development.

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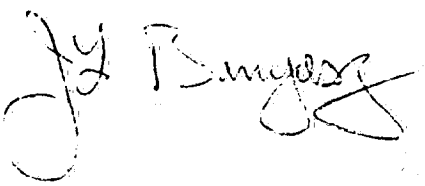

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